



Simulating RICO with LES and SCM

Margreet van Zanten
Pier Siebesma
Louise Nuijens
Bjorn Stevens



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10th GCSS BLCWG case

GCSS working method: use integrated datasets to set up case studies and validate simulations

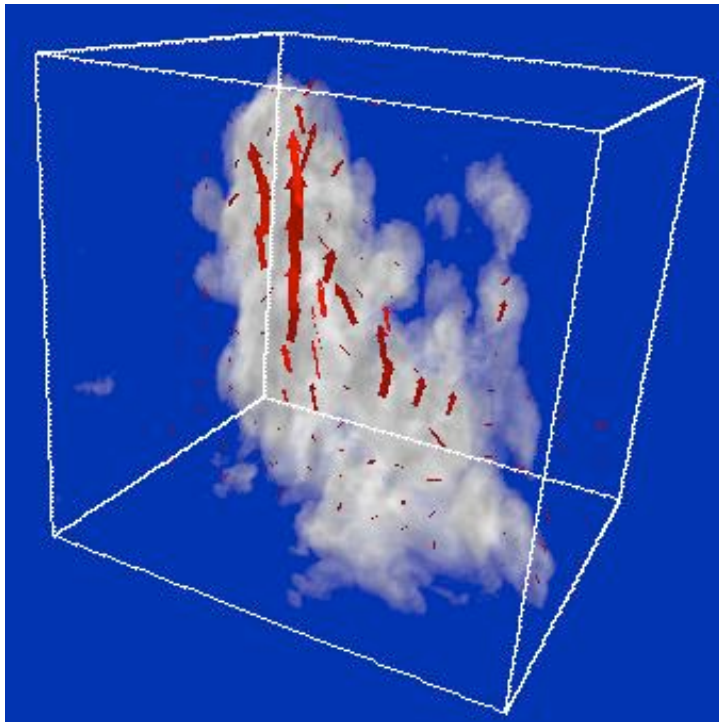
Case studies so far:

- BOMEX trade cumulus case
 - Transitional cumulus case from ATEX
 - Continental shallow cumulus diurnal cycle (ARM Oklahoma site)
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Photo courtesy Bjorn Stevens

LES and SCM



Large-Eddy Simulation:
large scale eddies in a
turbulent flow are
explicitly calculated,
smaller scales
parametrized.

Single Column Model:
1D version of GCM or
CRM





RICO data set

Wanted! Dull days!

Simple cloud structure
Stationary LS forcing

Precipitation

Aircraft data available



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RICO data set

Preselection:

LES case: Dec. 12, 17 and 19 2004

Jan. 5 and 7 2005

(C130 RF04, RF07, RF08, RF10 and
RF11)

SCM case: trade Cu window of Dec. 17
2004 till Jan. 8 2005

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